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Is the Eugenist Scientific?

J. LAWRENCE COLEMAN

St. Louis University

EDITOR'S NOTE: *The Ethician of today looks with some arm on the "loud" progress of eugenics. Generalizations beyond e evidence and hasty applications to the everyday life of Ameri- n citizens have threatened to bring sociology itself into bad odor well as interfered alarmingly with the rights of individuals. et, there is a sane sociology; and we are publishing the fol- wing article in the hope that it will arm the theoretical ethician ith practical arguments gathered from more mature and scien- fic investigations.*

THE most effective argument against the eugenic ideal of sterilization is a constructive plan for the treatment f the feebleminded. Ethical arguments have their value, ut to deal with the materialistic eugenist, we must counter ractical argument with practical argument, fact with fact, nd solution with solution.

It is the purpose of this paper to lead up through the istory of the problem to a constructive plan for dealing ith the feebleminded.

As regards the intellect the difference between feeble- indedness and insanity lies in the fact that the former is ue to a lack of normal mental development, whereas the sential characteristic of the latter is the loss of a certain ental development already attained. Feeblemindedness oes not connote a total lack of mental ability, for, as I all point out later, there are varying degrees of intellectual tainment among these people. The essential character- tic of feeblemindedness is a retardation of full mental owth which deprives the person so afflicted of the ability f self-maintenance. Hence, as a working definition, I ould say that feeblemindedness is a state of mental de- iency due to lack of normal development, by reason of hich a person is rendered socially and economically in- mpetent.[1]

The first scientific approach to the problem of the feeble- inded was made by Drs. Itard and Seguin in Paris in the rly part of the nineteenth century. The work of the tter was so successful that the movement spread rapidly rough Europe and was soon introduced in America where e first school for the feebleminded was opened in Massa- usetts in 1848. Other states soon followed, and by 1910 ere were 26 such schools. The work of these was in- uenced by Dr. Seguin, who came to America in 1850. e considered that feeblemindedness was due to "dormant culties," and that these could be aroused by physiological methods. For a time there was great enthusiasm about this project, for it was hoped that feeblemindedness could thus be cured, or at least overcome to the extent of enabling the "pupils" to return to the community capable of self-maintenance.

But it soon became apparent that even the best scientific educational treatment was unable to overcome the intellectual handicap of the feebleminded. The principle was formulated: "Once feebleminded, always feebleminded." The states were now confronted with the problem of providing indefinite care for a seemingly growing number of defectives.

Up to this time (1910) only two types of the feebleminded had been recognized—the idiot (mental age 0-2 yrs.) and the imbecile (mental age 2-7 yrs.). The invention and application of the "intelligence tests" now revealed a very large number of persons of defective mentality who were above the upper level of the imbecile group, and below the accepted lower level of normal intelligence (12 yrs.). These persons had been hitherto vaguely referred to as "the feebleminded," but since this term was now generically applied to all feebleminded persons, a new classification was necessary. Dr. H. H. Goddard, of the Vineland School in New Jersey, suggested the name "moron" from the Greek word meaning "foolish," and this term was adopted.

With the discovery of this large group of persons of borderline intelligence, and the apparent failure of the prevailing system of education, the emphasis shifted from the educative to the eugenic viewpoint. Eugenic research workers began to apply the "newly discovered" Mendelian principles of heredity to the transmission of mental defects. The mass of data acquired in several eugenic studies of supposedly[2] defective families was widely accepted as concrete evidence that mental deficiency was preponderantly hereditary. In addition, these surveys indicated a close connection between mental defect and crime, immorality, pauperism, and degeneracy. Stress was laid upon the apparent rapid increase of the feebleminded, and statistics were brought forward to show that these people reproduced at a much more rapid rate than normal persons.

The increasing complexity of social and economic conditions was largely responsible for bringing to light a large

number of mentally defective persons of the moron type who had formerly managed to get along without public assistance. In addition to these, psychiatric and intelligence tests revealed great numbers of "morons" among public school children and patients examined in mental clinics. The moron, once considered as comprising only about 20 per cent of all the feebleminded, was now shown to be present in the population in much larger numbers. (Note: In 1930, it was estimated that the morons comprised 80 per cent of all the feebleminded.)[3] Institutional segregation for more than a small number of these was out of the question. For example, on January 1, 1931, the number of patients in state institutions for the feebleminded and epileptic was 72,283, as contrasted with an estimate of more than one million feebleminded persons in the United States. The eugenists, basing their claims on the apparent heredity, delinquency, rapid increase, and social incompetency of the feebleminded, and the failure of education and institutional segregation to meet the problem, came out strong for the sterilization of all mental defectives.

However, from about the year 1920, we see a gradually changing concept of feeblemindedness. Until this time, the psychological rating of mental defectives in terms of mental age had led many to the erroneous inference that all persons who were old enough to have a higher intelligence but who had a mental rating of less than twelve years were feebleminded. But the intelligence ratings of the white men drafted into the U. S. Army during the World War revealed that 47.3 per cent had mental ages of less than thirteen years.[4] It was obvious that such a large group could not be classed as feebleminded, for these men, before entering the army, had for the most part led useful lives, and had supported themselves and their families in a satisfactory manner.

But even making allowance for selective factors and errors in the tests, it could not be doubted that a large proportion of these men had a very low mental age. Why could they not be classed as feebleminded? Dr. Goddard, commenting on this, said that the fault lay in the prevailing concept of feeblemindedness.[5] The definition of feeblemindedness had always included not only the mental level, but also the inability to get along in the world. The error lay in the inference that all who tested twelve years or less were incapable of maintaining themselves. If the thirteen-year-old mind was the lower limit of normality, then some people with a mentality of from eight to twelve were subnormal but not feebleminded. The difference lay in their ability to take care of themselves.

It was also shown that segregation was not necessary for the majority of the high-grade feebleminded (morons) discovered in the public schools and clinics. These were from a different type of home than the institutional cases were, and in the majority of instances were the only defectives in otherwise normal families. After a period of training in special classes they were able to find employment and make a successful adaptation.[6]

These successes were a further incentive toward "socializing" the high-grade defectives found in institutions. The most successful system for this purpose has been developed by Dr. Charles Bernstein of the Rome State School, Rome, N. Y. In this system, the most capable patients in the institution are selected for the "colonies," where, although still under the supervision of the institution, they are outside its environment. The purpose of the colonies is to provide practical training under normal community conditions for those who show promise of social adaptation. After a period of training, the most promising patients in the colonies are selected for parole. They are returned to the community, although still supervised by the institution through its social workers. The parole is of indefinite length and may be followed by full discharge for those who give evidence of social stabilization. In 1931, 10,306 patients were on parole from state institutions for the feebleminded and epileptics.[7] Surveys have shown that the majority of those paroled and discharged have made successful adjustments. Speaking of the dependency of the high-grade defective upon manual skill rather than intellectual ability, Dr. Bernstein stated that the economic and social efficiency of these people has been impaired by the new methods in the modern industrial system which do not give them the opportunity for practical apprenticeship and training which was once open to them in a less complex environment. He considered that this handicap could be overcome by proper training.

> The moron, unfitted generally for other than unskilled or semi-skilled labor, can fill a recognized place in society. Properly trained, he has better chances of receiving a decent wage than if left helpless and uncared for in the maze of modern conditions. . . . I am more firmly of the opinion than ever that from one-half to two-thirds of all mental defectives for whom state care and supervision is necessary can be effectively, economically, and successfully provided for under a wise extension of the colony and parole system.[8]

A new aspect in the care of the feebleminded was now brought forward, namely, socialization by means of practical training. This was to be accomplished with the view of returning to the community all defectives who showed themselves capable of social and economic adaptation. A factor which gave a great impetus to this movement was the after-care study made by Dr. W. E. Fernald in 1919 of patients discharged from the Waverley State School in Massachusetts.[9] The results of this study were so contradictory to the prevailing indictment of the feebleminded and so much at variance with the then accepted theories, *that Dr. Fernald hesitated for two years to publish it.* In view of the fact that many of the cases which turned out successfully had been discharged or "let go" under protest and against the advice of the institution authorities, it became apparent that there were very hopeful possibilities of the successful "socialization" of specially trained and selected cases. Other studies similar to that of Dr. Fernald have been made since 1919, revealing the remarkable social adaptation of high-grade mental defectives.[10]

After a study of the moron type of feebleminded person, r. Goddard was convinced that no sharp dividing line uld be drawn between feeblemindedness and normality, cause the high-grade feebleminded and the dull normal aded almost indistinguishably into one another, and hen the supreme test of social competency was taken into count, who was feebleminded and who was not became matter of relativity. This led him to the conclusion that e moron type was not necessarily feebleminded:

> The demonstrations made in recent years by certain institutions and public schools of the way in which many morons with the right kind of training can be made fit for social and economic life, have been influential in bringing leading authorities to the conclusion that feeblemindedness is not necessarily associated with intellectual subnormality of the moron grade.[11]

his statement is especially significant when we consider at Dr. Goddard was the author of the *Kallikak Family* ublished in 1912) which indicted the feebleminded, d which has subsequently been used by the eugenists a basis for much of their propaganda.

Recent scientific studies of the feebleminded have also en found not to accord with the earlier eugenic "discovies."[12] The charge that feebleminded parents always have ebleminded children has been found not to be true.[13] The ildren of feebleminded mothers who were placed in a od environment by Dr. Bernstein, and given proper care, d a normal physical and mental development.[14] Many ebleminded persons have been found to have married rmal persons after leaving institutions, and these had a gh percentage of normal children. Studies of the heredity institution inmates and feebleminded persons discovered school and clinic examinations revealed two types of the ebleminded: the hereditary and the non-hereditary.[15] The scovery of vast numbers of the non-hereditary type in e public schools and clinic cases drew attention to the ct that most of the early studies on heredity had been ade among institution inmates, and these had been, for e most part, of the hereditary type.

An examination of the earlier studies upon which the arge of the rapid increase of the feebleminded was based veals the fact that although the persons examined did ve large families, this was not due to their mental defect, t rather to the cultural level from which they came.[16] his environmental factor is often neglected in dealing ith the problems of the feebleminded. Normal persons of e same culture level as those examined had families just large, but as the attention of investigators was concenated on the defective families, the others were overlooked. he average number of children discovered in recent studies mental defectives is very small,[17] and it is this average mber of the total which must be considered, and not lated instances of large families.

It has also been found that the percentage of delinquents ong the feebleminded is not nearly so high as had been pposed.[18] Environment as a cause of delinquency among ental defectives has now been recognized by many investigators. It is true that mental deficiency may be an important contributory factor in anti-social conduct, but it does not follow that all feebleminded individuals are criminals. The "potential criminal" stigma attached to the feebleminded can be applied to any individual, normal as well as subnormal.

> In the right setting the mentally subnormal individual may make a virtually perfect adjustment; in the wrong setting the physically and mentally normal individual may develop into a criminal or delinquent.[19]

Dr. Wallis makes a distinction between "defective delinquents" and "delinquent defectives," and was convinced that the delinquencies of the latter type were due more to social maladjustment than to mental inferiority, and that the ultimate responsibility for this should be placed upon the community.

> In considering what class of feebleminded individuals may safely remain in the community, it is of more importance to study what communities are safe for the feebleminded. The number of feebleminded that can be cared for in the community is in direct ratio to the supervision that the community is willing to provide.[20]

The sole use of the intelligence test as a means of detecting feeblemindedness has been discarded by psychologists and psychiatrists, and the early evidence of the large proportion of feebleminded persons among criminals based on these tests can no longer be regarded as scientific.[21] Even if the tests showing such a large proportion of feebleminded persons in penal institutions were correct, it could not be argued that all the feebleminded are criminals. Recent studies have disclosed two classes of the feebleminded: a law-abiding type and a criminal type. *These two types also exist among normal persons.*

Recent studies also reveal an important fact which has led to a revision of method in dealing with the high-grade feebleminded. These studies show that they can be trained to fill a very definite and satisfactory place in the community.[22] The earlier conclusions as to the social and economic incompetency of mental defectives were based on cases whose very failure had brought them to public attention. It was taken for granted that this failure was due entirely to their mental deficiency, and the accepted solution was permanent institutional segregation.

The failure of mental defectives in community life is now shown to be due, not only to their mental handicap, but also to their environmental condition and lack of training. Formerly the public schools tolerated the presence of defective children obviously incapable of benefiting by the regular classes, until they were of sufficient age to justify "turning them loose." Naturally a large proportion of these, unfitted for any definite work, became burdens upon the community and eventually had to be placed in institutions.

The new aim of "socializing" the mentally defective has given rise to new methods of procedure. The public schools now have special classes where defective children

are educated according to their individual capacity and are trained to perform certain tasks. The success of the majority of those leaving these classes is sufficient testimony of their value.

Many institutions, therefore, now endeavor to fit the feebleminded for life in the community and by selective parole offer to many of them a chance for social rehabilitation. It is noteworthy that the states in which such progressive work is being accomplished *are not in favor of sterilization* and have no sterilization laws.

In view of these discoveries and successes in the training of the feebleminded, it is surprizing to note that many states strongly favoring sterilization have made little or no attempt to train their feebleminded in this manner. Although the eugenists in a few of these states publish a great deal of propaganda to support their ideal, there is little scientific evidence to support their view. It is true that when two feebleminded persons marry their children have a tendency to acquire the defect, but such is not always the case. Then, too, investigations have shown that feebleminded persons often marry normal mates, and that in such cases there is a high percentage of normal children. But, even if defective children were to be born, would this be a justification for sterilizing these people? Dr. Goddard questions the so-called danger of having defective offspring:

> Just what is the danger? First, that we are propagating the feebleminded. Yes, but we have learned how to "cure" them, and when cured they are very useful. They are happy in doing a kind of work that you and I do not want to do—positions that it is hard to get people to fill. In other words, we need these people. They are an essential element in the community. Why should we be afraid of their having children and bringing up a family like themselves? [23]

Modern scientific findings do not support the eugenists' claim that the births of feeblminded children will be greatly reduced by the sterilization of all mental defectives. In order to produce any marked decrease in the total number of defectives, it would be necessary to prevent not only the propagation of people themselves feebleminded, but also all persons who are "carriers," and from whom a great number of the feebleminded are derived. Such a process would be impossible. Then, too, we must always remember that the number of feebleminded institutionalized is inconsiderable in proportion to the total number of defectives in the population. Such a method of sterilization would penalize a few and fail to reach the majority. Thus the eugenic reason for sterilizing the feebleminded is *based on a false principle, is unsubstantiated by scientific proof, and even if carried out in full (an impossible undertaking) would not accomplish its ultimate purpose.*

Within the generic class of feebleminded there are variations of mental ability, characteristics, and aptitudes. True, the low-grade feebleminded (idiots and the majority of imbeciles) must be permanently segregated either in institutions or, under proper care, in their homes. But, by sympathy and proper training, we can rehabilitate many of the high-grade feebleminded (of the moron type). This plan has stood the test; progressive institutions, by humane training, have obtained lasting results, have returned to the community many good citizens and thereby enriched it with good families.

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A Note on John Galsworthy, the Teacher

CHARLES W. MULLIGAN
St. Louis University

URELY, John Galsworthy, the playwright, could not well quarrel with us for criticizing him as a teacher. s certain that he did not wish his plays—and they alone the present time are under consideration—to be regarded ıply as works of art, nor himself as purely an artist. r, in rejecting the principle of *l'art pour l'art* and in subuting for it "art for man's sake," he assumed the position of the man of thought seeking a just vision of truth for himself and employing the drama as a means of stimulating others to that same vision. Galsworthy tried to play the part of Jacques reclining on the grassy bank and amusing himself with comments on life as it swept past him. But he was unable to attain that detachment of observation which was his ideal. He wished not to distort

the phenomena of life and character. But he could not fail to color those phenomena by his own vision of them. That was inevitable in a writer who subscribed so far to the Paterian principle of art as to maintain that no piece of writing had any value unless it was impregnated with the artist's temperament, unless it was individualized by the peculiar personality of the artist. It was inevitable in a writer who claimed that outside the vision of the artist there were no such things as truths of nature, and that seer and things seen were inextricably joined. Galsworthy disclaimed any intention of solving the problems in his plays or of effecting direct reforms. Possibly; but he felt the problems too poignantly, he was too sensitive to the bitter ironies of the life he presented to be dispassionate. He did not effect direct reforms; he was content that his plays should have no immediately practical result. And yet he wanted ardently to point a moral and to teach men the truth as he saw it.

Galsworthy attained a great and distinguished position in contemporary English literature. The Nobel Prize which he received in 1932 was nothing more, really, than the formal expression of the esteem which he had already widely gained among the readers of his many novels and plays. When he published, it was a matter of moment to the literary world. To the more thoughtful portion of it he appealed, and from it he won the epithet, still unchallenged, of the master realist of English drama. The intellectual found this playwright, whose plays are styled the social history of contemporary England, a stimulus and an inspiration. But, indeed, no one can fail to be interested by Galsworthy's dramas. Whether one sees a great actor like George Arliss in *Old English*, or a stock company in *Loyalties*, or whether one simply reads the plays, the effect is the same: interest, enjoyment, sympathy for the unfortunate. The effect is the same: a question on every lip, "what was he aiming at?", desultory attempts at criticism, the abiding impression that, well, we are too unimaginative, too unsympathetic toward humanity.

There we have the cardinal principle of Galsworthy's teaching—sympathy. Sympathy is the solution of social problems, the adjuster of social inequalities, almost the substitute for social institutions. It would comprehend imagination, enlightened understanding, a far vision into the bitter ironies of life. Just before the curtain falls on the last act of *Windows*, Mrs. March makes a short speech which can be said to epitomize Galsworthy's attitude toward the world: "See—people—as—they—are! Then you won't be—disappointed. Don't—have—ideals! Have —vision—just simple—vision!" Sympathy is essentially an attitude of mind wherewith the philosopher, in the sense of the wise man, faces the fact of human nature and the phenomena of human instincts just as they are, without attempting anything beyond a simple understanding of them and of their free play.

For Galsworthy human character is a completely static quality, for which its possessor is not responsible. Bill, in *The Eldest Son*, turns upon his mother with the complaint: "I didn't make myself!" Human natures never change; Human Nature is apparently too sacred to be tampered with. "Follow your instincts," says the philosophic Bly in *Windows*. "You see . . . now that we ain't got no faith, as we were sayin' the other day, no Ten Commandments in black and white—we've just got to be 'uman bein's—raisin' Cain, and havin' feelin' hearts . . . No; trust 'uman nature, I say, and follow your instincts." Galsworthy has discarded traditional morality and traditional ethics. Human nature is all that he can look to to establish the balance of conduct. Hence its aberrations are to be understood and sympathized with, not condemned. They are to be sympathized with, moreover, because men, not being responsible for what they are, are not responsible for what they do. Walter How expresses the idea in *Justice* by saying that "the doctrine of full responsibility doesn't quite hold in these days."

This is the philosophy of life which Galsworthy expounds and defends in his plays, a philosophy which necessarily engages him in conflict with society and its institutions. Society is composed, for Galsworthy, of men and women as dull as dough, who, in their smug satisfaction with things as they are, never question their inherited views themselves and resent it when others do. Their resentment is even more fierce when those others contravene cherished conventions. For this yeasty element, as Galsworthy calls it, society has erected corrective and punitive institutions—society's antiquated garments (he employs Carlylean terminology), its work-day clothes, thirty years behind the styles set by the leaders of thought. The individual's conflict with these two forces constitute in the main the themes of Galsworthy's plays.

When writing of the emotion of love he is at his most characteristic. There is the case of Clare Dedmond in *The Fugitive*. Her life with her husband is unhappy, a disgusting lie, as she calls it, because their love has died. For that reason, to live with him longer is impossible. She struggles against her husband's entreaties, against those of her friends and family, seeks her own free life, is hunted from covert to covert by society, the respectable and the pious, and finally takes her own life one night in a cafe. Her only crime was that she was made for love and found her instincts circumscribed by the respectabilities. There is the case of Faith Bly in *Windows*, a young girl who also wanted only to be loved. Society failed to understand that when she smothered her illegitimate child to save it from life she was driven by hysteria. No wrong was intended, but persons of traditional morality turned her after-prison existence into a never-ceasing persecution. There is the clergyman in a *Bit o' Love*, Michael Strangway, who freely permits his wife to leave him for the house of a lover for whom she has greater affection. Strangway's conduct is actuated—and his conventional career ruined—by his belief in the sacredness of love. But the world is well lost for it.

The "wild birds" are they who deserve sympathy. The

essential Galsworthy finds expression in *The Pigeon*. That play contains much of his philosophy, found especially in the speeches of Ferrand, the alien. In Act Three Ferrand is speaking to Wellwyn, the artist, whose studio has been a shelter for vagabonds. Wellwyn has not attempted to rebuke or correct his passing guests; social agencies have attempted that in vain; all he has done is to give them food and warmth and clothes. We overhear Ferrand in the midst of a speech:

". . . Since I saw you, Monsieur, I have been in three institutions. They are palaces. One may eat upon the floor —though it is true—for Kings—they eat too much of skilly there. One little thing they lack—those palaces. It is understanding of the 'uman heart. In them tame birds pluck wild birds naked.

Wellwyn. They mean well.

Ferrand. Monsieur, do you know this? You are the sole being that can do us good—we hopeless ones.

Wellwyn. Not a bit of it; I'm hopeless too.

Ferrand. Monsieur, it is just that. You *understand*. When we are with you we feel something—here—*(he touches his heart)*. If I had one prayer to make, it would be, Good God, give me to understand! Those sirs (social reformers), with their theories, they can clean our skins and chain our 'abits—that soothes for them the aesthetic sense; it gives them too their good little importance. But our spirits they cannot touch, for they nevare understand. Without that, Monsieur, all is dry as a parched skin of orange.

Wellwyn. Don't be so bitter. Think of all the work they do!

Ferrand. Monsieur, of their industry I say nothing. They do a good work while they attend with their theories to the sick and the tame old, and the good unfortunate deserving. Above all to the little children. But, Monsieur, when all is done, there are always us hopeless ones. What can they do with me, Monsieur, with that girl (she seeks love in unconventional ways) or with that old man (a dipsomaniac)? Ah! Monsieur, we, too, 'ave our qualities, we others—it wants your courage to undertake a career like mine, or like that young girl's. We wild ones—we know a thousand times more of life than ever will those Sirs. They waste their time trying to make rooks white. Be kind to us if you will, or let us alone like Mees Ann, but do not try to change our skins. Leave us to live, or leave us to die when we like in the free air. If you do not wish of us, you have but to shut your pockets and your doors—we shall die the faster.

Wellwyn. But that, you know—we can't do—now can we?

Ferrand. If you cannot, how is it our fault? The harm we do to others—is it so much? If I am a criminal, dangerous—shut me up! I would not pity myself—nevare. But we in whom something moves—like that flame, Monsieur, that *cannot* keep still—we others—we are not many —that must have motion in our lives, do not let them make us prisoners, with their theories, because we are not like them—it is life itself they would enclose!"

Justice is the best example of Galsworthy's treatment of a "wild bird" whom the doctrine of moral *laissez-faire* has brought into conflict with society's institutions. William Falder, a clerk in a solicitor's office, utilizes the opportunity of forging a check so that he may take Mrs. Honeywill, with whom he is in love, away from England and a brutal husband. His crime is detected, he is sent to jail, forges a reference in order to get work, falls into the hands of the police again and finally commits suicide. Falder's lawyer defends him against the charge of forgery by maintaining that he was driven to desperation by the wrongs inflicted upon the woman he loved and that when the opportunity to escape with her presented itself he seized it and altered the check in a moment of temporary insanity. His crime was not malicious. It was the act of a weak man, who needs only sympathetic treatment to be reclaimed for society. A prison term will only ruin him, and is a man to be lost because he is born and bred with a weak character? That was his misfortune, the sole cause of his delinquency, and now he is to be destroyed because society will treat him as a criminal and not as a patient. No insinuation of condemnation by Galsworthy for contemplated adultery, for the deliberate alteration of the counterfoil several days after the check was cashed, for the futile attempt to cast suspicion on a fellow clerk. No question of responsibility for personal actions.

Indeed, for Galsworthy one's private life is absolutely one's own personal affair. The individual is completely autonomous, with a full right to live as it pleases him to live. "A little private life in these days—what is it?" is one of the most significant remarks in *The Show*. The curiously amoral quality of Galsworthy's plays is no doubt due to this moral liberty (the hard, self-preservative instinct of self-control is quite incompatible with full and generous expansion of soul) restrained only by the English tradition of the gentleman and of good taste. The presence of such principles in these dramas forcibly insinuates into the mind a comparison of Galsworthy's thought with that of Shaftesbury, the first of the English philosopers to make feeling and taste the standard of morality. Given this hint, one cannot but realize a further similarity. Follow nature, urged Shaftesbury and the deists, follow the instincts of human nature; they are right and cannot lead man astray. A true Galsworthian doctrine: what the conventional call moral aberrations are manifestations of nature which we cannot fully comprehend, which require only a wise toleration to work themselves out for the good of all humanity. The brotherhood of man adumbrated by the deists was to produce that understanding, that enlightenment, that heightened imagination which Galsworthy would achieve through sympathy. It is disagreeable to be forced to deny to John Galsworthy that place among original modern thinkers which he sought and sought with undoubted earnestness and sincerity. He occupies a conspicuous and distinguished position in modern English letters. He has enriched the drama by plays of great power, technically most admirable in incisive dialogue, clear character drawing, chaste form. His splendid gifts of expression have been employed to their fullest to expound and defend his teaching, a most persuasive teaching, indeed. But it is not new; it was outlined by the philosophers of the eighteenth century.

The Promise of Repose

JOSEPH E. DOUGLAS
Regis College, Denver

Of all the monuments which antiquity has left to mark this particular country-side of Europe, the most impressive, the most permanently enormous in the memory of those who have seen it is the Pont du Gard. It was late in my life that I first came upon this giant thing, round the corner of the road in the gorge of that lonely valley, spanning the ravine from escarpment to escarpment above the trees. I have often heard of the effect it produced. I could not believe it; for, after all, it was but a specimen of the round arch, of the regular Roman courses: a simple process of building in tiers from side to side of a ravine. But, when one sees the thing, all that is said of it comes true. Its isolation, its dignity, its weight, are all three awful. It looks as though it had been built long before all record by beings greater than ourselves, and were intended to stand long after the dissolution of our petty race. One can repose in it. I confess to a great reluctance to praise what has been praised too much; but so it is. A man suffering from the unrest of our time might do worse than camp out for three days, fishing and bathing under the shadow of the Pont du Gard.[1]

"SUFFERING," as we do, "from the unrest of our time," we feel, I suppose, more strongly than have others not "of our time" how exalted a praise it is, that one should say of a thing, as Mr. Belloc says here of the Pont du Gard, "one can repose in it." In proportion as our unrest is deeper and more profound, in that proportion do we long the more for completion, the strong fulfillment of our eyes, some fullness of experience in which we might lay hold of and assume to ourselves the quality of enduring things. It is true, indeed, that there is no praise of a thing beyond this "one can repose in it." And it is true also that, if that fullness of experience which we call repose is possible to us, we of the present know nothing of it. That experience, certainly, is one which we have not had.

Basically and before all else, it is in the things of the mind that we require repose. At its root and first of all, repose is intellectual, and in its essence intellectual only—by which I intend no unreal isolation of the intellect, but only this, that a man cannot satisfy himself ultimately, except he do so in *knowing*, whatever may be the consequences or connections of such knowing. Nor am I concerned, for the present, to maintain that such intellectual repose is possible, but only to observe that we have not got it.

Our experiences in the purely intellectual order nowadays are of a kind with our experiences in other orders. They are multiple, like the series of experiments to which the physical scientist arrogates the high name of experience, or like the infinite series of excitements in the life of the modern city. They are discrete; they are short and sharp and sudden; they are distracted and aimless; they are without continuity. Most certainly there is nothing in them of repose; upon our minds there falls no shadow of the Pont du Gard.

It may be that there is no repose for the human mind, that it is designed solely for endless questioning; but it may also be that there is that which is prior to all questioning, that which all questioning presupposes, an object *proportioned to the human mind*. I do not put this as a logical disjunction, of which the one member or the other is susceptible of demonstration. It is a question of experience; and experience is incommunicable. If there were a man who had consciously possessed himself of an object *proportioned to the human mind*, he might tell us that he had had the experience; he might offer us some few suggestions as to how to attain that experience for ourselves; he could not give us a trick syllogism that would automatically put us at our ease.

I say there is question of an experience—not, of course, of the experience which the Empiricists used to talk about; experience is a good Greek word, and the Greeks went further than counting their fingers. Moreover, there is question of an experience in which the mind finds a basic repose; therefore, if there be such an experience, it must of necessity be unique, transcending all our ordinary preoccupations of doubting and questioning and reasoning, in which, of and by themselves, the mind quite obviously does not find a basic repose.

One man, at least, in history professes to have had such an experience, St. Thomas Aquinas. He tells us that if a man will, he may, after a long, hard discipline of preparation rise at last "to the consideration of *being in the measure in which it is*," "*ad considerandum ens inquantum est ens*," that in that consideration he will find an object perfectly proportioned to his intelligence, that in that object he will find repose. This is no easy thing, I repeat, but it is a thing which we of the present might conceivably think worth while. The true, also, like the beautiful, is hard.

Of what sort is the repose which is to be found in the consideration of "being in the measure of its being?" It is a repose in the consciousness of the unity of all experience. As a man might come away from the Pont du Gard with this great and new thing "permanently enormous" in his mind, and discover that by this one experience the scale and the dimension of all experience had been permanently altered, so, in a far more fundamental sense, a man comes from the consideration of "*ens inquantum est ens*" with his mind re-made. He knows that he has been to the center of all human experience. By this experience all other experience whatsoever is made one, one, not with the untiy of a monistic self-identity, but with the unity of a perfect analogy, which affords an ultimate basis of continuity running through all further experience.

A man comes from this experience, not with all questions answered, all difficulties solved, all doubts dispelled, but with the knowledge that he has been to the center of experience, and that, if, working his way out from that center, he can but keep his lines of communication unbroken, he is secure. Mr. G. K. Chesterton remarks in another connection:

> At the place where the roads meet there is no doubt of the convergence. A man may think all sorts of things, most of them honest and many of them true, about the right way to turn in the maze at Hampton Court. But he does not think he is in the center; he knows.

A man coming from the consideration of "being in the measure of its being" knows that he has been to the center. Basing himself firmly upon that center he can face with an unshakable courage and confidence the myriad numbers of things he does not understand.

I feel constrained to repeat that this is no obvious thing, or rather, it is too obvious. There is required a large simplicity, indeed, of him who would return to elemental things. But if out of our modern chaos order is to come at last, we must return to very elemental things.

We find the threads of human experience broken. We find bewilderment in chaos; and at the back of all we find confusion and disquiet in the mind. If from any quarter there comes a man who tells us that in a single consideration he can integrate all human experience, that there is a central pivot of experience which will bear up under the full weight of the mind, then we do well to attend. That is the promise of St. Thomas Aquinas, the promise of repose; a repose which is, not the end of activity, but its source; which is, not the consummation of experience, but the unfailing surety of its continuity.

Of such a repose precisely do we of the present stand in need. There is required of us, if we would cut our way through that labyrinth of problems with which we find ourselves confronted, an intellectual effort, strong and sustained. There is no spring of strong and sustained effort but repose. As long as the mind remains preoccupied with surface doubts and disquietudes, it is incapable of dealing with even these. From a central repose alone can it come forth to act with that heroic vigor that shall be required of it. If it be true that in this consideration of "being in the measure in which it is" the mind finds an object proportioned to itself, that in this consideration it finds the thread of continuity which integrates all experience, that from this consideration it comes forth clothed with a new force and vigor, that it can forever draw therefrom new resources of energy and activity, then assuredly it is to the strengthening discipline of this metaphysic that we must go.

That is the promise of St. Thomas Aquinas. It is a large promise, and one which he alone, I think, dares make; but if he can fulfill. . . . If he cannot fulfill, then, I think, we shall not succeed in the work which we have to do. For, I repeat, the only source of strong and sustained effort is repose. We have not that repose at present. If we do not find it, we shall not succeed.

From every side we are importuned by a howling chorus to live in a world which evolves, in a world which is unintelligible, in a world which is rotten to the core; there is only one voice at the present which tells us to live in a world which *is*, *"ens in quantum est ens."* That sounds like a new and unheard of realism. Perhaps there is something in it.

> "When one sees the thing all that is said of it comes true. Its isolation, its dignity, its weight, are all three awful. . . . One can repose in it."

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Experimental Science and Life

A Study Outline

AUGUSTE D. COYLE THOMAS E. DAVITT
JOHN A. CRONIN GEORGE B. HAMILTON
St. Louis University

EDITOR'S NOTE: *The following Study Outline and Bibliography will be of service to students and teachers in the preparation of term papers, seminars, etc. We will be glad to learn how we may make these outlines more useful both as to subject matter and as to method. The symbols used in references in the body of the article are explained in the Bibliography; all references are to pages.*

I. THE PROBLEM.

A. Men have always recognized two divisions of beings, *living* and *non-living*. Question: What is the explanation of this distinction?

B. To state the problem fully we must examine the *factual* differences observed experimentally.

1. Living things intussuscept food for *their own* upbuilding and preservation, by their *own activity*.

   The only analogies found in non-living things are chemical or physical processes, which tend to an equilibrium and are not continuous nor for the good of the individual; they take place by mutual chemical affinities, etc., not by the action of organs. P. 163-170; DrS. 242; 245ff; Bas. 103-107.

2. Living things *develop* their *own parts* by their *own activity*. Non-living things *add* to or *increase* in size, mechanically as in a crystal. DrS. vol. I, 30; 93ff; McC. 191-5.

3. Living things reproduce their kind; the parent organism remains and a new one develops itself.

   No analogy for this is found in non-living

beings; they only disintegrate. Was. passim; Sha. 216ff.

4. Living things repair themselves within wide limits. DrS. vol. I, 174ff; 110ff; McC. 195-8.
   a. Lower forms restore destroyed parts.
   b. Higher forms repair injured parts.

   Non-living things, e. g., a machine, show nothing of this.
5. Living organisms show *purposeful* adaptation to different conditions and surroundings, e. g., temperature regulation, etc.

   No *purposeful* adaptation in non-living bodies, thus a machine cannot *adapt itself* to run on less fuel. DrS. vol. I, 204-213; 229; Was. 238ff; Hal. 13; 43ff.

C. In a word, experiment shows in living organisms a purposive *organization* which is not found in the inorganic world, a remarkable unity in all the actions of an organism; and this unity is always for the good of the entire individual or its species. Sha. 242; DrP. 10; Bas. 103-107; McC. 191-8; She. 175; DrP. passim; Hal. 15-6.

II. MECHANISM AND NEO-VITALISM.

A. Mechanism.
1. A mechanistic philosophy teaches that life is a by-product of non-living processes. H. 69-70; 13-19; Le. 5; WiW. 6-8; Hal. 9-10; Mah. 195-6; JoG. 42-61.
2. Explains known data:
   a. Some explain through the major physiological doctrines on which they rely. McD. 270-271; Was. 238-49.
   b. Others endeavor to explain the observed data:
      1. Nutrition is explained by osmosis. WiW. 9.
      2. Generation: forces which divide the cell are similar to such physical forces as magnetism and static electricity. WiW. 59; WiV. 93-101; JoG. 143-9; Was. 214; O. 159-60.
      3. Development: due to mechanical division of cells. Was. 220ff.
      4. Regeneration is explained by the general principle "what is adaptive to an end will realize this if it be at all possible." WiW. 110; 88; DrS. vol. I, 55; WiC. 78-9.
      5. Adaptation: the circumstances around living beings so vary as to change the chemical composition or reactions of the colloids. WiW. 90; DrS. vol. I, 177.
3. Critique. These explanations of the known data of living organisms do not square with the latest facts of science. Hal. 9-11; WiW. 27-111; DrS. vol. I, 129-143; 214-240; vol. II, 66-82; Hal. 19-26; 40; 71-5; 103; McC. 197-8; JoG. 62-124; Gi. 169; 27-47; Dot. 188-98; Bar. 250-69; Ger. 16ff; Was. 209-45; O. 131-170; JoM. 3-28.

B. Neo-Vitalism—the Modern Reaction to Mechanism.
1. Neo-Vitalism holds that life cannot be explained by physical and chemical forces and offers an empirical solution of a vital "force" plus these physical and chemical forces. WiW. 11-15; DrS. vol. I, 142-3; Bor. 459-460; Hal. 11; McC. 198-9; Dot. 194-7; She. 174-5.
2. It overwhelmingly refutes the mechanistic explanation of the known facts. Supra, II, A, 3.
3. It postulates a non-mechanical principle. McC. 199; Dot. 191-200; Ger. 16-24; WiC. 51-52; WiV. 243-248; 32-5; Fr. 92-6.
   a. This non-mechanical principle is diversely explained. Dot. 191-225.
      1. "Entelechy" or "soul" directly or indirectly guides the functions of life. DrS. vol. II, 82-4; 156-71; 208-339; vol. I, 143-4; 224-226; Fr. 94-5; McD. 364ff.
      2. Life is "Nature" expressing herself as a characteristic whole which has no spatial bounds. Was. 23-25; Hal. 12-17; 26-27; 37; 45-75; 103; JoG. 113-116.
4. Critique.
   a. Neo-Vitalism is deserving of merit for its crushing rejection of mechanism. Hal. 9-11; DrS. vol. I, 129-143; 214-240; vol. II, 66-82; Hal. 19-26; 71-75; 103; JoG. 62-124.
   b. It fails, however, to account adequately for the vital force because it attempts an explanation based on inadequate metaphysics. DrS. vol. II, 283; Hal. 104; She. 173-4.
      1. Neo-Vitalists do not explain the essential oneness of the organism because they conceive the vital force as distinct from the physical and chemical elements in such wise that they introduce an unexplained duality. Bar. 226-8; JoG. 128-9; McC. 232ff; JoG. 18-9.
      2. Some conceiving the force as non-spatial can offer no satisfactory explanation of its origin. O. 199-205; 233-4 (note); JoG. 134-138; McD. 83ff; JoM. 157-170; Dot. 328ff.
      3. Having no genuine philosophical theory of causes, they can only conceive their factor as a directive force, an *efficient agent:* hence difficulties in energy consumption, etc. O. 172-5; Mah. 516ff; McC. 232ff.

III. WHAT KIND OF A SCIENCE CAN SOLVE THE PROBLEM?

A. Inductive science is descriptive, observational, arriving at generalities by an examination of particulars. She. 90; Bal. 31.

1. It is absolutely necessary for experimental science. Joy. 382; Me. 374.
   a. It is the only means of obtaining data. MD. 102; 114; MI. 118-20.
2. Induction alone is inadequate. Joy. 401, 428; C. vol. I, 30; 208; Me. 306-7.
   a. It must borrow the first principles upon which all science is founded, e. g., it assumes the legitimacy of induction itself. GrP. 47ff; T. 154-5.
   b. Of itself it is only contingent, and hence begets only probability. MD. 48; 54-8; 94; 287-8; She. 93-101; Me. 253-8; 315.
      1. Actual experimentation can never take in all the instances.
      2. The particular phenomenon with which induction deals is necessarily contingent.
      3. The relation of empirical facts to first principles is not immediately evident.
3. Hence, it cannot *alone* solve the problem of life, since this is an investigation into the essential constitution of living beings.

B. Deduction is the science of explanation, the necessary collaborator of induction. C. 7; 45ff; 243ff; MD. 65-7; 352-4; 312; 350; Joy. 214-9; GrE. 328ff; Ch. 241ff.

1. The foundation of deduction is the most fundamental, and consequently the most extensive, of all concepts: being. MD. 427; C. vol. II, 23-4; Joy. 67; 195; Pi. 1-18.
   a. The first or prime deductive science treats of being as being; the various other sciences treat it, or a section of it, under some particular aspect, biology treating it as organic, psychology as mental, etc. She. 187-188.
   b. There is, therefore, a hierarchy of sciences, and the place which any science will hold in the ascending scale of this series will be determined by its degree of abstraction. MI. 111ff; 116ff; She. 101-4; 180-1; T. 20-1.
2. The validity of the first principle of deduction is most certain, for it is self-evident. Me. 203ff; Joy. 215.
   a. The principle of identity; of contradiction. Joy. 69; Mai. 291.
   b. Principle of sufficient reason. She. 149-62; C. vol. II, 64.
3. On the concept of being and these first principles, the most universal and typical deductive science works itself out: The Science of Being. She. 127ff.

Summary: To solve a problem raised by empirical data and touching essential constitution, the data of experimental science must be conjoined to and complemented by the invariable and certain principles of reason. This union will give us a *scientia media,* a true and certain philosophy of nature. Therefore, in order that our problem be solved, such a Philosophical Biology is necessary. This sort of Philosophical Biology is possible only on Aristotelico-Scholastic grounds. She. 185-91; T. 3; Wol. 91-7; Ch. 325; Pe. 197-223.

IV. THE ONLY ADEQUATE SOLUTION.

(Note: Mechanism is definitely rejected by the devastating critique of Neo-Vitalism; yet Neo-Vitalism itself can only refute Mechanism, it can never produce an adequate explanation for it has no *true* principles by which to build on the experimental data. McC. 198-200; JoM. 3-29; Was. 239ff; McD. 246-71.)

A. Experiment discloses a *self-building, self-preserving* and *self-seeking* unity and organization in living things, now:

1. This unity must be *substantial,* because it is essentially a new one; *new* because it is not a resultant of chemical and physical forces; *essentially* because it is radically different from non-organic substances for to mere *properties* (chemical affinity, etc.) it adds *direction.* Bar. 236-7; Ma. 368; GrP. 115-44; DrS. vol. I, 107ff; Pi. 3ff; T. 14.
2. *A sufficient reason* (Sha. 164ff; Joy. 215; McC. 140ff; She. 149-58) in the being's nature for this new substantial unity can only be a substantial X. GrP. 60ff; 221ff; Bar. 286ff; Mo. 80-94; DrM. 124-54; C. vol. I, 127; Z. vol.I , 119.
3. This substantial X must be an *incomplete substance!* Jol. 15-66; Ma. 558; Bar. 240; McC. 98ff; R. 245-60; McW. 222.
   a. Life is "lost" and something remains; there must be a subject to lose life. C. vol. II, 48; P. 96-106; Mo. 227-37; Z. vol. I, 441ff.
   b. *Direction, intrinsic* and *immanent,* could not be explained if this X were a complete substance added to the chemical and physical factors. McC. 98ff; GrP. 114-186.
4. This X therefore must be *substantial,* a *source* of *unity,* a *root* of *new* properties, an *incomplete* substance which actualizes the potentialities of the chemical and physical constituents and makes *one substance with them.* Jol. 57ff; DrP. 19; JoM. 77-79; 138-144; Bar. 245-6; D. 151ff; L. 680ff; McD. 355ff.

B. This is precisely the Aristotelico-Scholastic vital principle: *the substantial entelechy of a natural, organized body capable of life.* Bar. 287-9; Ma. 544-61; Pi. 19-41; She. 174ff; DrS. vol. I, 250ff.

1. *Entelechy,* that is, a principle actualizing potentialities, giving new properties, opposed as a formal incomplete substance to the subject with which it makes *one.*
2. *Substantial,* that is, determines the thing to its *essential* grade of being, that is, to be a *living being;* it gives essential properties.
3. *Natural* and *organized,* that is, the *subject* of this entelechy is a heterogeneous combination of chemical and physical elements interdependently related.
4. This subject—obviously—is *capable* of being determined to its essential grade of "living."

C. This entelechy satisfies the demands of a Philosophical Biology. MD. 379ff; 393ff; Was. 177-8; 243ff; DrS. vol. I, 294-6; MD. 342-63; 379ff.

1. It dovetails with a complete Philosophy of Nature; unity of science is therefore achieved. MD. 342-63; She. 86-163; 179; T. 1-32.
2. It forms an integral part of a complete science of causes, which is demanded for an adequate explanation of being; namely formal, material, efficient and final causes. Pi. 85-95; Joy. 157ff; 220ff; Z. vol. I, 355ff; MD. 286ff.
3. This union of form or entelechy with its subject is not that of an efficient cause or an assisting form (like a rider on a horse), but it is that of a constitutive part of the organism. as an architect who directs and works himself into his own structure; hence there results an essential oneness of being, properties and direction. T. 13-4; DrP. 63-81; GrP. 223-8; DrS. vol. II, 114-117; Pi. 145-6.

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A Field of Research for Scholasticism

PETER HOENEN
Professor of Cosmology, Gregorian University, Rome
Translated from the French by
B. F. Dryden, West Baden College, West Baden, Indiana

AMONG the branches of epistemology, there is one which is vigorously cultivated by various modern schools of philosophy, but neglected almost entirely by the Scholastics (hardly faithful, in this regard, to Aristotle), namely, the philosophy of mathematics. We should like, therefore, to bring this subject to the attention of Neo-Scholastics. The few lines which are at our disposal do not, of course, suffice for a complete exposition. So we shall limit our study to a single system, axiomatics, and we can get only a bird's-eye view even of this one system.

In order to state clearly the epistemological problem in our geometrical knowledge, let us compare the latter with physical knowledge. The first result of this comparison may be enunciated in the adequate, though not quite exact formula: geometry is an *a priori*, physics an *a posteriori* science. Yet the origin of both disciplines is in the data of the senses. Hence arises our first problem: how explain the necessary and universal character of our geometric knowledge? And, we may add, why is this lacking in physical knowledge? This problem finds a complete answer in the Scholastic theory of formal abstraction, which explains how it is possible to abstract necessary and universal knowledge from sense data in themselves contingent and singular. However, let us make three observations: (1) In the matter of the origin of first principles, there must be a return to the theory which we believe is that of Aristotle and St. Thomas.[1] (2) The theory of formal abstraction, barely outlined by St. Thomas and Cajetan, must be developed further. (3) A careful distinction must be made between the kind of abstraction which leads to notions and principles regarding the *species specialissimae* (this kind is, without any doubt, of great importance in the study of pure extension, homogeneous in all respects, in which *situs* is evidently a principle of individuation), and the kind of abstraction which leads to notions and principles regarding the genera.

But there is another problem, much more difficult of solution. In knowledge of the physical order (though not, be it noted, in all cases) what we know, we know only approximately. Even a law like that of Newton's, according to which attraction is in inverse proportion to the square of the distance, expresses, by virtue of its deduction from experience, only an approximate knowledge, and is perhaps only approximately true in reality. On the contrary, if we say that the surface of a sphere is increased in direct proportion to the square of its radius, we are convinced of having enunciated an absolutely exact law. And yet, in both cases, that of physics and that of geometry, the origin of our knowledge is in the data of the senses. This fact of consciousness contains an unanswerable argument against all empiricism.) This, then, is the problem: how can we explain the absolute exactness which we find in geometry, and which is not to be found in the initial data of the senses? For a better understanding of this second problem, let us compare geometry again with arithmetic. For the latter, i. e., for the theory of whole numbers and the science of elementary combinations, *the sense data themselves are exact;* even for the senses, there are multitudes, made up of individual beings, quite distinct and numerable. We can calculate with pebbles. But such clearly determined objects are lacking in geometric *sense perception* (of course, we do not mean they are lacking in the reality).

The second problem, then, is one proper to the epistemological origin of geometry. Aristotle and St. Thomas understood this and threw out the objection which Protagoras drew from it against geometry, but they did not work out the solution. This solution, in our opinion, can be found in the theory of abstractive intuition, which St. Thomas admits—not, of course, in so many words, but by admitting simultaneously abstraction and intuition—in the origin of first principles. It is not an imaginative, but an *intellectual intuition;* therefore, it must be carefully distinguished from the Kantian pure intuition, which resides in the sense faculty, and so can never solve our second problem. Again, let us observe, that a proposition like the one which states that the three medians of a triangle pass through the same point, cannot be a primitive intuitive proposition. It pretends to be absolutely exact, yet this exactness can never be discovered in the data of the phantasm.

Now the difficulty in this second problem seems to us to be at the root of all modern philosophy of mathematics. But we shall speak here, as we have said, only of the axiomatic school, and of Hilbert's "formalism."

The construction of analysis and then of geometry, beginning with arithmetic (let us recall that, for the latter, the difficulty does not exist)—in a word, the famous arithmetization of the continuum, aims to eliminate geometric intuition, for the same reason.[2] The difficulty of continuous curves without tangents, which modern mathematicians[3] are in the habit of bringing up *against* intuition, would have the same force against intellectual intuition. But there is, it seems to us, another solution; we believe we can prove that these curves "do not exist." We are aware, in saying this, that our words will scandalize a number of mathematicians. The other modern schools, the logistic school, which, in another way, claims to exclude all intuition, even that of arithmetic, and whose chief representative is still Bertrand Russell, and the Neo-Intui-

tionists, whose undisputed leader is L. E. J. Brouwer, have grown up out of the difficulties of this nineteenth-century analysis.[4]

The science of axiomatics is the natural result of the research, which, by examining the foundations of the classical geometry, has led to the construction of the non-Euclidean geometries. We shall not tell the story here[5] but only glean from it certain bits of epistemological interest.

First of all, in the very beginning of modern mathematical criticism, we find precisely the difficulty of our second problem. There is question of Euclid's famous Fifth (or Eleventh) Postulate. Now this postulate cannot be *per se*, directly, intuitively evident. We have here a case analogous to that of the three medians, which we have mentioned; the sense data have not that exactness which would be required in order intuitively to abstract from them a self-evident principle. And this explains the whole history of the famous postulate. Mathematicians ordinarily describe this state of things only very vaguely; they are content with saying that "this postulate is not as evident as the others which Euclid uses," without analysing the difference. This, of course, obscures matters. There is, however, one who does make the analysis, and that one is worth an academy: we speak of Felix Klein.[6]

Whether others have clearly understood the nature of the difficulty or not, it is a fact that for long centuries—beginning with the ancient Greeks, of whom Proclus speaks —the immediate evidence of the postulate has been rejected. Some have wished to replace it by another (Nasir-Eddin, Father Clavius, Wallis, etc.). But all these suggestions had the same defect as the postulate itself; their postulates could not be self-evident axioms, unless the phantasm possessed absolute exactness. This is not the case. Criticism took a new turn with the work of Father Saccheri, who tried to *demonstrate* the postulate *ex absurdo*, thereby implying, once more, a negation of its immediate evidence. Accepting the results obtained by Euclid in his first 27 propositions (the 28th is the first which applies the postulate), and adding to them the negation of the postulate, he hoped to arrive at a contradiction. The result of his and his successors' work is well known. The non-Euclidean geometries were constructed; the contradiction is not forthcoming, and was even proved, later, to be impossible.

And yet, the whole "complex" of these geometries was long rejected by the majority of geometricians, and by philosophers; even today, it is met with feelings of invincible repugnance. Why? Because, as is generally said, it contradicts our intuition. On the other hand, there are enthusiasts for these new geometries who make them an argument against intuition. What does this mean? For the whole thing started with the *lack of intuition*, due to the lack of exactness in the phantasms which are the matter of the postulate or of the equivalents proposed for it in the course of history. The fact, therefore, that both parties continue to find the "complex" of the classical geometry conformable to intuition, is a sign that *there must be in this "complex" a truth which is equivalent to the postulate, but does not require in the image, like the latter and its historical substitutes, an exactness which cannot be found there. And it is the philosopher's task* (according to Aristotle, the metaphysician's) *to seek this truth.* There are several philosophers who have, we think, indicated it, and we ourselves believe we have found it in the necessary homogeneity of pure extension, which implies lines having (constant) direction, and implies the same "continuum of directions" at each point.[7]

It would take us too far afield to examine further the problem (partly, indeed, psychological) how mathematicians can have failed to make such a truth explicit. Let us observe only that this very same story itself contains an analogous example. It so happened that *after* the construction of the non-Euclidean geometries, which should have required a review of *all* the axioms, there had been omitted, not only one, but a whole series of the "axioms of order," belonging to Hilbert's second group, and uncovered only in 1882, by Pasch.[8] Hence we conclude that those systems which seek, on principle, to exclude all intuition, are always in danger of admitting it unawares. Examples seem plentiful in modern criticism, and this is not always a simple imperfection in such systems; it can be their ruin.

All the axioms, then, which are necessary for the deduction of geometry, have been assembled and grouped; after which, the deduction itself is purely a matter of formal logic and constitutes the geometry. (On this, there is complete—though, indeed, unconscious—agreement with Aristotle, for whom principles belong to the intellect, and deduction to the reason, to science properly so called). In the process of deduction, geometrical intuition, we are told, is no longer strictly necessary. This work of gathering and grouping the axioms constitutes the axiomatic method in the first sense of the word. We find the beginnings of it in Euclid himself; and, we may add, Aristotle gives the philosophy of it in the *Posterior Analytics*. The study of the influence of various axioms on the structure of the science is a modern advance due principally to the admirable work of Hilbert.

But going farther, we next find the axioms considered as *a system of hypotheses*—no longer of intuitive truths—and several of these systems can be studied. There is the Euclidean system, the non-Euclidean system, the non-Archimedean system, etc. From these systems, formal logic deduces various geometries. *A geometry is an hypothetico-deductive system.* This is the axiomatic method in the second sense.

Yet another step is made. Since, for logical deduction, it is the *form* alone that counts, independently of the material content, the sense of the geometric words which enter into the axioms, and consequently also, the sense of the propositions deduced, may be neglected. This is the extreme axiomatic method, of which Hilbert's famous book, *Grundlagen der Geometrie*, has been called, not without

son, the breviary. This extreme axiomatic method lit-lly verifies Russell's quip: "thus mathematics may be ined as the subject in which we never know what we talking about, nor whether what we are saying is e."[9]

Hilbert goes still farther. He extends this method to thmetic, and to logic itself. The result is what is called "formalism" of Hilbert, one of the three great modern ools of the philosophy of mathematics.

This foundation for mathematics evidently requires new thods, and the study of these methods constitutes a new ence: axiomatics. It begins with a clean-cut separation tween axioms and derived propositions. Though a position may seem to be intuitively evident to common se, if it can be formally deduced from others, it will classed among the conclusions, not among the axioms; d these latter need not be self-evident.

This situation gives rise to the problem of the inde-ndence of the axioms; also to another, that of the com-teness (*Vollständigkeit*) of a system of axioms; and to ll another, which is the principal one: when the axioms no longer considered as intuitively evident, their con-tency must be proved, i. e., the exclusion of all con-diction in the future deduction. This is a problem for ution, since the guarantee of self-evident principles is longer present. The examination of these notions—hich may have a more, or a less strict meaning—the rmulation and solution of these problems, demand the w methods, among which are some of admirable inge-ity. We beg to add one word, in order to show how se methods have developed from Euclid's own criticism.

In Hilbert's axiomatics, three steps should be distin-ished. The first (in point of time) establishes the non-ntradiction of the non-Euclidean geometries; it consists entially in demonstrating that a contradiction in these uld make one possible in the Euclidean geometry. The ond step, in an analogous way, reduces the Euclidean metry (by analysis) to pure arithmetic; therefore, we told, it no longer requires any geometrical intuition, t still rests on arithmetical intuition. Finally, the third p would exclude this (especially what is known as com-te, or infinite induction) and would base the principles arithmetic, and even, simultaneously, those of formal ic, on logistic formulae, considered as mere symbols, or her, as mere representations. Non-contradiction (con-diction would also be a figure) would be established ording to another science, meta-mathematics, which does ke use of intuition, but only in the simple cases of mbols always finite in number, which it handles like ssmen. The result of the whole would be a system of tences, which are literally the propositions of our clas-al sciences.

What judgment shall we pass on axiomatics as a whole? 1. *From the epistemological point of view*, has axio-tics succeeded in providing a foundation for mathe-tics? In the first step—the demonstration of the non-tradiction of the non-Euclidean geometries—it seems fect; yet it presupposes the classical geometry, based on intuition (with the exception of the Fifth Postulate). And then, non-contradiction does not yet imply possible existence, unless in a very restricted sense;[10] there are still other senses possible. As for the second step, its value, though recognized by many mathematicians, seems to us far from being established. To lay the foundations of the classical analysis, recourse to the intuition of the geometric continuum really seems necessary;[11] besides, the attacks of the Neo-Intuitionists on the classical analysis, and on formalism, seem at least to have some foundation. Finally, there remains the third step. Everyone admits, for it is as clear as day, that this is very far from being completed. Here and there, some bit of the road has been cleared, but will the whole ever be worked out? Hilbert and his followers still hope so, in spite of enormous difficulties, but outside the Hilbertian school, there is, we believe, no one who gives them a chance of success. Indeed, it seems possible, at this very moment, to demonstrate the uselessness of their efforts.[12]

All this has already been said elsewhere, but there is something else to notice. Suppose Hilbert's task accomplished. Is the initial epistemological problem of explaining geometrical knowledge solved? Here is the problem again: we are convinced we have an intuition of geometrical objects which gives us, with the sense data as a starting point, principles which lead to a necessary, universal knowledge of perfect exactness; whereas the sense data from which we started are contingent, singular, and not very exact. We have also the conviction that all this perfection is lacking in our physical knowledge. How explain this datum, also an intuition, of our consciousness? How explain the origin of this knowledge? Now axiomatics does not examine this problem; it does not prove that this conviction is an illusion—the non-contradiction of the non-Euclidean geometries is certainly no proof; neither does it offer an explanation of the intuition; it makes an enormous detour to avoid the problem. Science has certainly traveled by other roads than that marked out by axiomatics. In short, it has failed as a foundation for science, and has not even attempted to explain its origin. Axiomatics as a theory of knowledge of first principles is utterly worthless.

2. Quite different must be our conclusion if we consider *axiomatics as a logical, "analytical" theory* in the Aristotelian sense of the word, i. e., as a study of science strictly so called, which is a system of conclusions deduced from a system of principles. It is then an admirable development of the *Posterior Analytics* and follows perfectly the lines marked out by the Stagirite, who, in writing this theory of science, had continually before his eyes the most advanced science of his time, to be condensed a quarter of a century after his death, into the *Elements* of Euclid. Is it not the duty of modern Aristotelians to enter this path resolutely?

References

[1] See our article "De origine primorum principiorum scientiae," in *Gregorianum*, 1933, pp. 153-184.

[2] Cf., for example, Klein, F., *Anwendung der Diff. u. In-*

tegralrchn, auf Geometrie. Eine Revision der Prinzipien, Leipzig, 1907, pp. 5-12.

[3] Klein, F., *op. cit.*, pp. 51 ff., pp. 78 ff.

[4] On the three schools, cf. G. H. Hardy's excellent article "Mathematical Proof," in *Mind*, 1929, pp. 1-25. We may observe, however, that the article seems to give too much value to Russell's *Principia Mathematica*, and not to do justice to the "happy intuitions" of Brouwer. An account already somewhat old, from Brouwer's own hand, is "Intuitionism and Formalism," in *Bull. of the Americ. Math. Soc.*, 1913, pp. 81-96.

[5] Cf. Hoenen, P., *Cosmologia*, Gregorian University, Rome, 1931, pp. 447-454.

[6] Klein, F., *Elementarmathematik von höheren Standpunkte aus*, II, 3rd ed., Berlin, 1925, pp. 189 ff.

[7] Hoenen, P., *op. cit.*, pp. 450 ff.

[8] Pasch, M., *Vorlesungen über neuere Geometrie*, 1st ed., 1882; 2nd ed., Berlin, 1925.

[9] Russell, B., "Mathematics and the Metaphysicians," in *Mysticism and Logic*, 7th ed., London, 1932, p. 75. Rus said this of the method in the second sense. To interp it one must know that his article (written for the revi *The International Monthly*, 1901) had to be "as roma as possible" (p. vi).

[10] Hoenen, P., *op. cit.*, p. 452 ff.

[11] Cf. O. Hölder's excellent book *Die Mathematische Metho* Berlin, 1924, pp. 193 ff., 349, 357, 548, 556. Kant influences, however, must be corrected. For those w would still base geometry on analysis, we should like recommend Klein, F., *Elementarmath.* I, 4th ed., 19 pp. 37 ff., where he cites an axiom almost always omit by authors, *"was Sie in den Büchern meist nicht finde* This is an example of the danger to which we called tention above; geometric intuition is again necessary order to construct geometry from the starting point analysis.

[12] Becker, O., *Mathematische Existenz*, Halle, 1927, pp. 32- (Jahrbuch Husserl, VIII, pp. 472-494).

EDITORIAL—A Problem

IT IS with great diffidence that one proposes what might look like an examination of conscience. Yet certain facts and certain conditions raise a problem at present which has some resemblance to just that.

The problem can be stated briefly. There are in the United States a large number of universities, colleges, and seminaries in which Scholastic Philosophy is taught as a major subject and that as positive doctrine not as a mere phase in the history of thought. Indeed, John A. Southwell writing in the *American Review* for October (p. 668) estimates "there are annually more than 100,000 American students of Thomas Aquínas." A startling number! Each year thousands of students go through the logic of Aristotle, the epistemology, ethics, etc., of the Schoolmen. No other single system of thought—we state it without hesitation—can claim a similar number of students; besides, few philosophies are taught as positive systems.

There can be no doubt that this vast educational work, this contact of so many minds with the logic and depth we know Scholasticism possesses, has had and is having a beneficial effect. It must needs make for clarity and force of thought; it undoubtedly translates itself into action in the after-lives of many students.

And yet, there *is* a disproportion, and this disproportion is the problem. If one takes thought, just how many outstanding philosophical works can he recall written by American Scholastics? How many really excellent articles from the pen of Scholastic thinkers has he seen in the numerous American philosophical reviews and quarterlies? Indeed, how many American journals of Scholastic philosophy are supplying this army of teachers and students with stimulating discussion of modern problems? And if we look to the practical order, how much Scholasticism has been embodied in social, political and economic activities, activities so necessary and widespread at this moment?

Do we not find that there is indeed a disproportion? and, therefore, a problem?

These thousands are down in our catalogues as studer of perhaps the most engrossing study possible to the hum mind. Nothing so fascinates, so centers the curiosity the intellect, so whets its strange appetite to know, as t adventurous plunge into ultimates, this pursuit of *wisdo* To win wisdom, the youths of Athens walked with ugly Socrates and haunted the Academe; for it, the you of Europe crowded to the lectures of Abelard and filled cold, comfortless quarters of the University of Paris, th Germans and Italians, Bohemians and Englishmen, lu from their homes by the fascination of philosophy. know, to meditate, to see the truth," said Cardinal Cu "is a perpetual joy, and the older one grows, the grea is the delight which it affords and the more one gives o self up to it the greater is one's longing for the possessi of All Truth."

But philosophy is not merely the fulfillment of mind's desire; being a study of the absolute and the ul mate, it is a guide to men in the conduct of their lives, gives them the power to judge and to do; as it explains order of being, so it directs the order of action. Schol ticism, however, is yet more than this; it is a philosop that looks to true theology for its fulfillment; it is a p losophy that can, because it is sprung from the same Rc of Truth, fuse into that theology and so form a *Welta schauung*, which, being true, can indeed make men free.

What ought to be the effect of this widespread teachi of such a system? If we look at facts, is this the actual sult, now, in the United States? It would not seem It would not seem that Scholasticism has become, throu the minds of our students, a leaven unto a new social ord it would not seem to have stimulated the best of them the solving of modern problems and the searching out difficulties.

Is it a problem? We only propose it. Perhaps readers of The Modern Schoolman would have somethi to say of its existence and its causes?

The Point of Departure of Joannes Scottus Eriugena

EDWARD C. MCCUE
St. Mary's College, Kansas

N THE handbooks of the History of Philosophy, as well as in other works, we find the name of John Scottus ugena placed among diverse systems of philosophy. He known as a Rationalist, a Monist, a Pantheist, an anti-olastic. The reasons for such classifications have varied m the time of the condemnation of Scottus in the thir-nth century even to our own.[1] The anti-Scholasticism Scottus is based perhaps upon the interpretation that is a pantheist, since pantheism is diametrically opposed the Scholastic system. It must be remembered that F. rnet, the writer of the article on Scottus in the *Diction-re de la Théologie Catholique*, as well as Dom Cappuyns not consider him a pantheist. So careful an historian Etienne Gilson leaves the question open. He prudently narks, not only as regards the question of pantheism, but o in reference to the whole of the Eriugenian system, t the mode of expression characteristic of Scottus is en more daring than the underlying thought warrants.[2] In the course of a study dealing mainly with the Theo-anies of Scottus, we too have come to the conclusion that ttus is far from being a pantheist. If the charge of pan-ism could be definitely established one might claim ttus as an anti-Scholastic. In this case the Scholasticism which he would be opposed would be that of Augustine, in the ninth century the only Scholasticism was the gustinian tradition. To our mind Scottus seems more embrace than to oppose this tradition.

His philosophic outlook is distinctly that of the *credo ut elligam* (I believe so as to understand) of St. Augustine the *fides quaerens intellectum* (faith seeking under-nding) of St. Anselm. Only on this basis can we sym-thetically and correctly realize the significance of the otations from Scripture, and Eriugena's attempt to give a ional explanation of the Scriptural data. If what Pro-sor Gilson would call a Christian philosophy is nothing re than a philosophy which intends to be a rational erpretation of data, but considers as the essential element these data the religious Faith, the object of which is de-ed by Christian Revelation, then Scottus certainly may classed among those who took the data of Revelation d sought to give a rational explanation.[3] The supreme ject of such a philosophy is God, an object never reached the philosopher in the sense of an intuition. This, how-r, does not deter the philosopher from seeking to enlarge knowledge. For Augustine, as well as for those in the gustinian trend, philosophy would seem to begin with acceptation of Faith on rational grounds. Reason or ilosophy then seeks to give a rational explanation of the a offered. This leads to a mysticism. The final out-me is the full fruition of the love of wisdom in the ion, face to face, of God.[4] Thus considered, philosophy not an autonomous science to the extent and degree in which it was for St. Thomas. Philosophical and theological truths are joined rather than separated. All truths fall within its scope, but more especially those which deal with the salvation of man and true beatitude, for the real object of such a philosophy is God.

The whole of Eriugena's philosophy is a seeking of God. It is true that he attempts some explanation of the universe; but in proportion to the quest of God, the divine ideas, and the return of the soul to God, it is a decidedly minor portion. Philosophy for him is a movement between Faith and the vision of God, such as he conceived that vision to be. It is a movement ever advancing to a clearer knowledge of truth, and therefore of God, in this life and a fruition of that knowledge in the next. The person seeing the reasonableness of the Faith and embracing it is in a far better position to philosophize than one who has not the Faith. The soul of the Christian, the Catholic philosopher, will be cleansed through Faith, illumined through knowledge, and finally, departing this life, will be perfected in the beatific vision.

> Lux in tenebris fidelium animarum lucet, et magis et magis lucet a fide inchoans, ad speciem tendens.[5]
>
> (Light shines amid the darkness for the faithful souls, and more and more it shines when beginning with faith, it leads on to perception.)
>
> Purgabitur per fidem, illuminabitur per scientiam, perficietur per deifactionem.[6]
>
> (By faith will be purgation, by knowledge illumination, and in assimilation with God perfection.)

Thus considered, philosophy is, above all, a way of life and, therefore, cannot be divorced from the teaching of the Scriptures and the Tradition of the Church.[7] Were it to be separated, it would eventually lead to error. Clement of Alexandria expressed the same thought when he wrote that philosophy is a gift of the *Logos* whose light ever beams upon his earthly image, the intelligence of man. It is the natural consequence of the possession of reason. It is imperfect and cannot avail those who deliberately reject the Gospel.[8] Philosophy for Augustine, as for those who may be classed as Augustinians, was not merely the speculation on truth, but rather knowledge combined with action, that is, knowing the truth and living according to the truth. Hence, philosophy was a way of life. For such men it might truly be said to be their religion, and since they were Catholics, their philosophy was the religion of the Church. Consequently, religion, that is, the Catholic Church, the deposit of Faith, the Scriptures and Tradition, is one with philosophy, the study of Wisdom; both lead to the final end of man. Scottus, it would appear to us, endeavored to follow the path of Augustine. Both agreed that their philosophy and their religion were distinctly

different from the religion and the philosophy of those who were outside the jurisdiction of the Church.

> Sic enim, ut ait Sanctus Augustinus, creditur et docetur, quod est humanae salutis caput, non aliam esse philosophiam, id est sapientiae studium, et aliam religionem, cum hi, quorum doctrinam non approbamus, nec sacramenta nobiscum communicant.[9]
>
> (For thus, as St. Augustine says, it is believed and taught —and it is the first requisite for human well-being—that philosophy, that is, the study of wisdom, is not one thing and religion another, since these, whose teaching we do not approve, do not receive the Sacraments with us.)

Religion and philosophy are convertible terms, for a true philosophy is a true religion and a true religion is a true philosophy. Consequently philosophy is nothing more than an exposition of the regulations of that true religion in which and by which God, the principal and highest Cause of all things, is reverenced and worshipped with a humble mind and by the use of reason sought for and investigated.

> Quid est aliud de philosophia tractare, nisi verae religionis, qua summa et principalis omnium rerum causa, Deus, et humiliter colitur, et rationabiliter investigatur, regulas exponere? Conficitur inde, veram esse philosophiam veram religionem, conversimque veram religionem esse veram philosophiam.[10]
>
> (What else is it to treat of philosophy if not to set forth the precepts of true religion by which the highest and chief cause of all things, God, is both humbly reverenced, and studied with the reason? It is settled, then, that true philosophy is true religion, and conversely true religion is true philosophy.)

In other words, philosophy is a rational exposition of the content of Faith. For one having the Faith there can never be a question of reason and authority, the deposit of Divine Revelation and the teaching of the Church, being at odds or arriving at different and contradictory conclusions. True authority and right reason flow from the same fount, the Divine Wisdom.

> Vera enim auctoritas rectae rationi non obsistit, neque recta ratio verae auctoritati. Ambo siquidem ex uno fonte, divina videlicet sapientia, manare dubium non est.[11]
>
> (For true authority does not oppose right reason, nor right reason true authority. That both, indeed, flow from the same source, namely, Divine Wisdom, there is no doubt.)

This method of starting with Faith, and by the use of reason seeking to render a rational explanation of data furnished by the Scriptures and Tradition, in no wise is derogatory of reason. In fact, such an attitude supposes reason, for one must have rational grounds for embracing the Faith. Nor does it prevent an independent investigation of the material universe. Yet the content of Faith acts as a check, in the sense that reason can never bring forward any really convincing evidence, which in any way would be capable of undermining the content of Faith. Scottus together with Augustine realized that in the final analysis reason was a deeper form of knowledge than Faith, since reason penetrates into the nature of the object, whereas Faith accepts the object without comprehending it. That which is prior in nature is superior to that which is prior in time. Reason is prior in nature whereas authority is prior in time. In spite of the fact that nature and time were created together, authority did not exercise so great an influence immediately. Reason was first. For example, Abraham discovered God and the eternal ideas purely by the power of his reason going from the visible to the invisible. He had not the Scriptures to guide him. With Revelation and with the coming of Christ, a new and altogether unquestionable source of knowledge was given to men. Here the authority of the Scriptures obtained the foremost position. Tradition is authoritative in the sense that it is founded not only on Faith but also on reason. True authority is nothing more than the truth discovered by the powers of reason and committed to posterity by the Fathers.

> *Mag.* Non ignoras, ut opinor, majoris dignitatis esse, quod prius est natura, quam quod prius est tempore.
>
> *Disc.* Hoc paene omnibus notum est.
>
> *Mag.* Rationem priorem esse natura, auctoritatem vero tempore didicimus. Quamvis enim natura simul cum tempore creata sit, non tamen ab initio temporis atque naturae coepit esse auctoritas. Ratio vero cum natura ac tempore ex principio rerum orta est.
>
> *Disc.* Et hoc ipsa ratio edocet. Auctoritas siquidem ex vera ratione processit, ratio vero nequaquam ex auctoritate. Omnis enim auctoritas, quae vera ratione non approbatur, infirma videtur esse. Vera autem ratio, quoniam suis virtutibus rata atque immutabilis munitur, nullius auctoritatis astipulatione roborari indiget. Nil enim aliud mihi videtur esse vera auctoritas, nisi rationis virtute reperta veritas, et a sanctis patribus ad posteritatis utilitatem literis commendata.[12]
>
> (*Teacher*: You know, I judge, that what is prior by nature is of greater dignity than that which is prior in time.
>
> *Pupil*: Almost everybody knows that.
>
> *Teacher:* That reason is prior by nature, and authority in time, we have already learned. For even though nature is created simultaneously with time, yet not from the beginning of time and nature did authority begin to be. But reason along with nature and time sprung from the beginning of things.
>
> *Pupil:* And this is taught by reason itself. In truth, authority proceeds from true reason, but, by no means, reason from authority. For all authority, which is not approved by true reason, seems to be unsound. True reason, however, since in its certainty and unchangeableness it is fortified by its own strength, needs for its solidity no authority to confirm it. For to me true authority seems to be nothing else but truth arrived at by virtue of reason, and by the holy Fathers passed on in writing for the use of posterity.)

There is no question of Scottus being a Rationalist, a Free-thinker, in the modern usage of the term. He had no intention of setting himself against the authority of the Scriptures or of the teaching Church. If he claims a definite place in his philosophy for reason, he is doing no more than Augustine and all scholastic philosophers.[13]

We may sum up the philosophical attitude of Scottus as follows. Faith is the starting point of all true philosophy. The content of Faith is the object upon which the reason works in order to give a rational account of God and the universe. Consequently, he discovers in

ne Scriptures statements which he conceived were well dapted to philosophical truths. Once in possession of the ruth, the philosopher should refer this to God, for God the Truth. In referring the truth to God, in realizing nat the truth is from God, the philosopher finds his greatst joy. The whole soul must embrace the truth. This alls for an act of the will. Through knowledge, *scientia*, nd action, *voluntas*, the philosopher leads a life not only n accordance with his philosophy, but also in harmony ith God's law. The philosopher is a seeker of wisdom. le must therefore set aside the material things of the world nd center the whole attention of the soul upon God, the ource of all things. In this manner life is led in a truly eligious way. Rather, this is religion, for a true philosophy nd a true religion are one. Some have lived their life nore thoroughly in compliance with these principles and ave advanced from a mere knowledge of the truth to a ontemplation of it. Being engrossed in the contemplaon of truth and, therefore, of God, they have enjoyed ot only a clearer knowledge but at times have been granted pecial knowledge. All Christians should strive for this ontemplation and true philosophy should conduct them o it. Contemplation is a foretaste of that which the just heaven enjoy. If Scottus has conceived philosophy as ne movement between Faith and an intuitive vision, as ssentially that of the *Credo ut intelligam*, (I believe so as o know), as leading to and actually completing and perecting itself in contemplation and mysticism, he has done o more than Augustine, Anselm, Bonaventure, and the st of the Scholastics in the Augustinian trend. He is ot free from errors. He has brought into his Augusnian outlook colorings from the pseudo-Dionysius.

The system which Scottus has attempted is not easy to nderstand. It can never be appreciated unless the student lace himself in the spirit of a medieval man at the dawn f medieval philosophy. He must look back to Augustine nd the Fathers and take into consideration the pseudoionysius. Above all he must seek to grasp in some small ay the spirit of St. Thomas so beautifully expressed in ne Prologue of his *Contra Errores Graecorum*:

> We should therefore not be surprised if modern theologians, writing after the existence of so many heresies, express themselves more cautiously and exactly on matters of Faith in order to avoid all heresy. From this it follows that we should not readily despise or reject passages in which the ancient doctors do not express themselves so carefully, as do the modern theologians. Nor should we interpret them too rigorously, but rather with reverence.[14]

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[4] Augustine, "De Doctrina Christiana," Migne, *P. L.*, Bk. 2, XII, 17, t.34, col. 43.

[5] Scottus Eriugena, "Homilia in Prologum S. Evangelii Secundum Joannem," Migne, *P. L.*, t.122, col. 290B.

[6] Scottus Eriugena, "Commentarium in S. Evangelium Secundum Joannem," Migne, *P. L.*, t.122, col. 338D-339A.

[7] Gilson, E., *L'Esprit De La Philosophie Mediévale*, Paris, 1931, vol. 1, pp. 30-44.

[8] Clement of Alexandria, "Stromata," Migne, *P. G.*, t.8, col. 717-728, 732-736; t.9, col. 257-264; 380-393. Cf. Bigg, C., *The Christian Platonists of Alexandria*, Oxford, 1886, p. 48, note 4; p. 49.

[9] Scottus Eriugena, "De Divina Praedestinatione," Migne, *P. L.*, t.122, col. 357 C-D. Augustine, "De Vera Religione," 5, 8, *P. L.*, t.34, col. 126.

[10] Scottus Eriugena, "De Praedestinatione," Migne, *P. L.*, t.122, col. 367D-358A. Cf. Gilson, E., *L'Esprit De La Philosophie Mediévale*, Paris, 1931, vol. 1. p. 297, note 1; Dom. Cappuyns would seem to discredit this idea in his book, *op. cit.* p. 304, but in other places would appear to come to practically the same conclusion.

[11] Scottus Eriugena, "De Divisione Naturae," Migne, *P. L.*, t.122, col. 511B.

[12] Scottus Eriugena, "De Divisione Naturae," Migne, *P. L.*, t.122, col. 513A-B. Augustine expresses the same sentiment in "De Ordine," 2, 9, 26, Migne, *P. L.*, t.32, col. 1007-1009; "De Musica," 5, 5, 10, Migne, *P. L.*, t.32, col. 1152.

[13] Gilson, E., *L'Esprit De La Philosophie Mediévale*, Paris, 1931, vol. 1, p. 218, note 6.

[14] St. Thomas, "Contra Errores Graecorum," in *Opuscula Omnia*, Ed. Mandonnet, Paris, 1927, t.3, p. 279-280.

Book Reviews

GUIDE TO MODERN THOUGHT

By C. E. M. Joad

Frederick A. Stokes Co., New York, 1933, $1.75

There is something decidedly refreshing in the reading of a odern book on philosophy which is professedly realistic, vitalic and dualistic all in one. And surprisingly refreshing will e reading be if the author of such a modern book is not a holastic. Such is the *Guide to Modern Thought* by Profesr Joad of London University.

Although throughout the book the professor adheres to his urpose of a mere exposition of the contemporary views of hilosophy, he inserts a paragraph here and there to indicate his ceptance or rejection of certain doctrines or parts of doctrines. Materialism, especially of that sort which is the basis of Behaviorism, first meets his rejection. His adverse argument is simple and brief but sufficient to show that there is a rejection. ". . . The doctrine of Behaviorism," he writes, "reflects nothing but a particular condition of the bodies of Behaviorists." Hence there is no reference to objectivity.

The New Idealism of the modern physicists fares no better. The exponents of this theory are physicists who, to Professor Joad, are attempting something outside their ken when they try to philosophize. They conceive the world to be pure thought, mathematical formulas . . . no more. This kind of world Professor Joad calls the smile of the cat without the cat. Nothing really exists for the Idealists except what the mind makes. What, then, the professor implicitly asks, would

hinder the New Idealist from avoiding to find what he expects to find? Such procedure surely would be grossly unscientific.

From his rejection of Idealism, Professor Joad shows himself a realist; from his rejection of materialism we may infer that he is a vitalist. And this he expressly says he is. The experiments of the eminent biologists, Driesch and Haldane, prove beyond doubt for our author that within certain beings there is "an inner drive to reach their appropriate form and structure and when it is reached, to maintain it." Repeatedly he speaks of organs working toward the good of the *whole*. If he had but mentioned a principle for this activity his teaching would be in agreement with the Scholastic teaching on the soul.

And a principle he does postulate but not the "soul" of the Scholastics. His principle is an evolving life Flux—a flux, however, that must not be confused with Bergson's *élan vital*. The French savant's principle is a "*single* all-pervasive vital stream," a homogeneous flow in which individual material objects are mere illusions made by the "carving" of the instinctive consciousness which is the "fundamental stuff" of the "vital flow." Professor Joad's witty retort to this theory is very much in place. He asks: why, then, does our consciousness not always carve objects which are pleasing to us? And his wit carries on into the remark that "it looks as if it is only in Heaven that Bergson's philosophy is true."

For the London philosopher too there is an evolving "life flow"; but it is not the only entity. Monism, in any form, is utterly repugnant to him, therefore he postulates matter as also existing. Into portions of matter portions of the "life flow" enter thus making living individuals. Matter offers to the "life flow" a resistance the overcoming of which constitutes the forward evolution of that flow. When, however, a portion of matter and its portion of the "life flow" have parted company the latter returns to the immense stream of life, imparting to this stream its increased power gained by working counter to matter.

Objections in abundance, it is true, can be found against this dualism, but the likeness between it and the Scholastic dualism of body and soul cannot be overlooked. While the professor's two elements, matter and "life flow" are united, what would hinder us from interpreting matter as body, "life flow" as soul, and the striving against matter as the soul's perfecting itself through the proper subjection of body? Outside this union, however, his postulates of the emergence of the conscious before the union, and the return of the "life flow" to the large stream, are untenable. But after all, the professor's dualism, which he holds as not conclusive, may presage his arrival, in the near future, at the proper goal. Often throughout the latter half of the book he suggests his theory as a solution of problems, for example, of spiritualism, telepathy, psycho-analysis. One wishes that he would go beyond suggestion at times, for suggestion defies thorough criticism.

BERNARD J. WERNERT.

BEAUTY LOOKS AFTER HERSELF

By Eric Gill

Sheed and Ward, New York, 1933, $2.00

Unhappily, the first reaction to *Beauty Looks After Herself* is one of disappointment. From the title the reader is led to expect a more or less systematic aesthetic. And no one is better fitted than Mr. Gill to give us such an aesthetic. He is, first of all, an artist, and therefore one whose knowledge of beauty is immediate and creative. He is, again, a Catholic, and this gives him a spiritual insight and understanding of the art of Byzantium, of early Christian Europe, and of the artistic triumphs of the Middle Ages. Despite these qualifications, however, *Beauty Looks After Herself* demonstrates no systematized philosophy of beauty.

It might be said, too, that Mr. Gill is not always completely successful in the style of his medium. This is the more distressing because it is conditioned not only by the excellence of the ideas and principles he elucidates but by his ability to write good prose of a more conventional order. The style of the overwhelmingly larger portion of the essays is too much a mirror of the author's attitude, an attitude that is completely apodictic. The charm, if there is any, must be in the matter, since the manner assuredly has very little.

The story, however, is not entirely a sad one. Mr. Gill's description of the aesthetic response, based on the psychology of the Schoolmen, is both interesting and sound. His thesis, stated again and again throughout the volume, is summed up in the appendix:

> Beauty is a union of the true and the good, and the faculty which has beauty for its object is the whole and undivided mind. For as the true and the good are united in beauty, so intellect and will must necessarily be united for beauty's discernment and apprehension.

But it is where he considers modern aesthetic theory and practice that he is most self-possessed and most stimulating. Mr. Gill is thoroughly a modern, and he is a staunch defender of modern forms and materials. It may be that some of his conclusions are invalid. Certainly Mr. Penty, himself an architect, writing in the Spring number of *The Criterion*, does not agree with his views either on architecture in general or on the use of concrete in particular. Such differences of opinion, however, are but side issues. If we must have some heresy in our aesthetic thought, let it be that of striving to express tried principles in new forms. Art must be in accord with its age. Error in expression must be expected, if not absolutely, then at least from the testimony of mankind's experience. Since Mr. Gill strives so earnestly to bring out the truth, we can forgive him should he err in his choice of medium. The essays are well worth reading. They are interesting and convincing. *Beauty Looks After Herself* shows that it is possible to be an ancient in aesthetic thought while insisting on the modern in aesthetic expression.

GUY LEMIEUX.

MAN IN THE NEW HUMANISM

By Sister Mary Vincent Killeen, O. P.

The Catholic University of America, Washington, D. C., 1934, pp. 100, $1.50.

According to this author, the various movements in America today claiming the name of Humanism, differ greatly in doctrine. The unifying principle which justifies the placing of them all under one head is their common interest in man. This dissertation is an attempt to present the concept of man as expressed in these movements.

The author sets down in succeeding chapters man's place in the so-called "Religious Humanism"; in the Humanism of Irving Babbitt, and finally in Humanism as conceived by Paul Elmer More. In the last chapter of the book she gives the Scholastic concept of man and briefly brings it into comparison with the concept of man as expressed by the three other schools. A short conclusion is added in which the author very clearly summarizes the entire study.

Of no little importance to those primarily interested in the Humanistic movements in America, the book is also of considerable value to those who are unacquainted with their history and especially their meaning. If the many Humanists in America differ on a point so fundamental as the "concept of man" (and according to the author they assuredly do), then we must no longer consider them as engaged in one—the Humanistic—movement. This fact the book brings out rather clearly, that, rather than one Humanistic movement in America, there are on the contrary, three Humanistic movements.

EDWARD E. FINN.